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Case Report

Traumatic degloving lesion of male external genitalia

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Abstract

Injury to the male external genitalia is relatively uncommon when compared with other parts of the human body. Trauma to external genitalia could result from accidents involving motor vehicles, power farm machinery, gun shot and stab injuries. We present a rare case of traumatic degloving injury of male external genitalia associated with partial penile amputation and loss of both testes sparing the internal abdominal and pelvic organs, resulting from run over by a heavy vehicle tyre.

Keywords: Male external genitalia; Motor vehicle accident; Trauma; Degloving injury; Penile amputation

1. Introduction

Traumatic injury to the male external genitalia is relatively infrequent when compared with other parts of the human body. Male external genitalia are generally protected from most injuries by their relative isolation and mobility. Additionally, the testes are protected by the anatomic tunica albuginea, one of the toughest fasciae in the human body, and the physiologic cremasteric reflex.[1] In the past, accidents with power farm machinery were the common cause of male external genital injuries in developed countries.[2] Presently, such injuries more commonly result from traffic accidents involving motorcycles and other vehicles, and firearms.[3] Road traffic mishap is a major cause of disability and death in developing countries.[4] We present a rare and unusual case of degloving injury of male external genitalia associated with absence of both testes and partial amputation of the penis sparing the internal abdominal and pelvic organs, which resulted from run over by a heavy vehicle tyre.

2. Case report

A 24-year-old lorry cleaner was in deep sleep, resting under the shade of a lorry carriage. The driver, without the cleaner's knowledge moved the heavy vehicle. The rear tyre of the lorry ran over his lower abdominal region including the groin, resulting in avulsed injuries, following which he was shifted to a nearby hospital for surgical management. The patient was brought to the emergency centre in critical condition with avulsion of skin and underlying tissues in the hypogastric region and the anterior compartment of the left thigh, and degloving of the scrotal sac with absence of both the testes associated with partial amputation of the penis. Radiograph of the pelvis showed double fracture of the pelvic ring which was stabilized by an external fixator. The avulsed injuries were thoroughly cleaned with saline and hydrogen peroxide solution to decrease the bacterial load. Though the wound was surgically debrided with broad antibiotic coverage, the wound swab obtained after four days was positive for Staphylococcus aureus. The patient succumbed after six days despite surgical and antibiotic management.

Autopsy was performed 12 h after the man's death. The body was that of a moderately built and nourished adult

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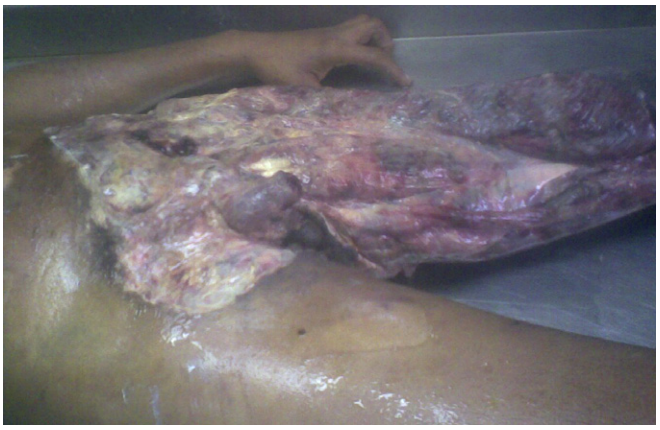

Fig. 1. Avulsed laceration involving the hypogastric region, pudendal area and front of entire left thigh.

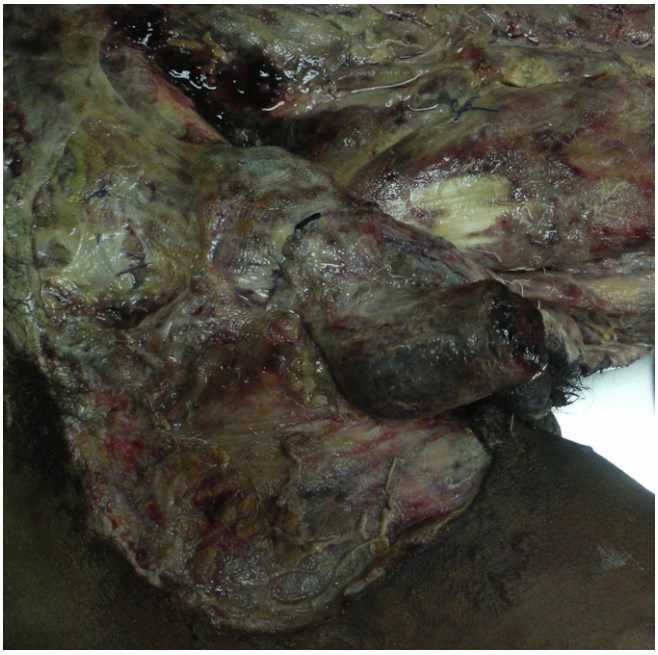

Fig. 2. Scrotal degloving and partial penile amputation with the floor of the wound showing yellowish green coloured slough.

male weighing 48 kg and measuring 172 cm in length. External examination showed an avulsed laceration (43 × 15 cm) extending from the right side of the groin involving the pudendal area and front of the left thigh exposing the muscles, tendons and vessels up to the knee joint (Fig. 1). The skin of the penis was degloved with remnant three centimetre of amputated shaft of penis in situ with absence of both testicles associated with a small part of avulsed scrotal skin tag (Fig. 2). Edges of the wounds were contused with evidence of granulation tissue. The floor of the avulsed wound showed yellowish green coloured slough indicating an infection (Fig. 2).

Internal examination was remarkable only for cerebral congestion and oedema, and pulmonary oedema. The abdominal and pelvic organs were intact and unremarkable. The cause of death was attributed to complications of traumatic degloving injuries sustained due to run over by a heavy vehicle tyre over the body.

3. Discussion

In civilian surgical practice in a developing country like Nigeria, urological injuries accounted for about 3% of trauma, and of these penile, scrotal and testicular injuries together accounted for 3–11%.[5,6] Approximately 50% of injuries to the male external genitalia involve the penis.[7] In a Nigerian study, Ahmed and Mbibu reported that road traffic accidents contributed to 68% of injuries to the male external genitalia, followed by those by gun shot, grinding machine, penile metallic ring and stab wounds.[1] In a South Korean study, Lee et al. reported that assault, sexual coitus and sports activities were the three major causes contributing to 33%, 20% and 16% of traumatic injuries to the male external genitalia, respectively.[8] According to Lee et al., traffic accidents contributed to only nine percent of injuries to the male external genitalia.[8] Menezes et al. reported a rare case of degloving scrotal injury caused by elephant stampede.[9] Gomes et al. reported two cases of degloving penile injury, and one case of complete penile and scrotal avulsion caused by dog bites.[10] Trauma to the external genitalia has been classified by Culp as non-penetrating, penetrating, avulsion, burns or radiation injuries.[11] Avulsion injuries, unique to the male genitalia, the tissues of the scrotum, penis and underlying elastic facial structures are integral to this injury. Avulsion injuries occur when these tissues become entangled, usually in clothing, and are torn off with the clothing, leaving behind the deep structures, exposing the uninjured corpora cavernosa and often the denuded testicles.[11,12] Wounds with severe local tissue contamination should be debrided, followed by skin grafting or genital reconstruction.[1] Genital lesions associated with amputation of the penis is psychologically a devastating injury, which requires a multidisciplinary team approach.[13]

In the reported case, the crushing force by the moving tyre resulted in total skin avulsion over the lower part of the abdomen, with degloving of the entire shaft of the penis with partial amputation, associated with absence of scrotal skin and both testes. This case adds to its rarity because of the extensive degloving injury of the male external genitalia associated with loss of both testicles and partial penile amputation that resulted from a single transaction without causing any crush injuries to the lower abdominal viscera.

Conflict of Interest Statement

None declared.

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